

SHIP, N. S.

Roller Bearings

Statistical method of control in forging balls for roller bearings, Podshipnik, No. 6, 1952.

9. MONTHLY LIST OF RUSSIAN ACCESSIONS, Library of Congress, October 1952 Uncl.

1. N. P. SOKOV, Eng.
2. USSR (600)
4. Bearings (Machinery)
7. Introducing speed technology in bearing production. Podshipnik no. 12. 1952.
9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

SOKOV, N.T.; LOKTIONOV, M.I.

[Swine breeding at the 1958 Exhibition] Svinovodstvo na Vystavke  
1958 goda. Moskva, Gos.izd-vo selkhoz lit-ry, 1958. 36 p.  
(Swine) (MIRA 12:3)

ASADULLIN, A.Z., inzh.; SOKOV, V.A., inzh.

Discrete system of program control of machine tools. Vych. tekhn.  
[MVTU] no.3:238-252 '63. (MIRA 17:2)

MAGAZINER, V.V.; ROZENBLAT, M.M.; SOKOV, V.I.

Design of hydropneumatic safety appliances for mechanical sheet  
stamping presses. Kuz.shtan. proizv. 3 no.1:23-28 Ja '61.

(MIRA 14:1)

(Power presses—Safety appliances)  
(Sheet-metal work)

IZOTOV, Ye.N.; ROZENBLAT, M.M.; SOKOV, V.I.

Friction clutches used as safety devices. Kuz.-shtam. proizv.  
3 no. 2:25-28 F '61. (MIRA 14:1)

(Power presses—Safety appliances)  
(Clutches (Machinery))

ROZENBLAT, M.M. & SOKOV, V.I.

Testing presses by means of hydraulic loading devices. Knz.-shtam.  
proizv. 4 no.12:26-29 D. '62. (MIRA 16:1)  
(Power presses--Testing) (Oil hydraulic machinery)

VECHTONOV, M.I., inzh.; KUDRYAVTSEV, V.A., inzh.; MALKES, D.A., inzh.;  
 OSTROVSKIY, G.I.; POVERENNIY, L.D.; SUSHKOV, P.M., inzh.;  
 TYULENEV, N.Z., inzh. Prinimali uchastiye: GALIYANOVA, N.S., inzh.;  
 PUTYEVA, N.P.; IZRAYLOVICH, Ye.A., inzh.; MARCHENKO, G.A., inzh.;  
 MALYGINA, Z.S.; SOKOLOVA, Ye.A.; SOKOV, V.H., inzh.; TARASOVA,  
 S.N.; TASHAYEV, A.L., inzh.; FILIMONOV, S.V.; DRALICH, K.F., inzh.,  
 nauch. red.; NOVITCHENKO, K.M., inzh., nauchnyy red.; SIMAKOV,  
 S.N., inzh., nauchnyy red.; FAKTOROVICH, Yu.A., kand. tekhn. nauk,  
 nauchnyy red.; STUPIN, Ye.N., otv. red.; LUTOV, N.S., red.;  
 IVANOV, V.S., red.; BAGUZOV, N.P., glav. red.; VOLCHEGORSKIY, M.S.,  
 zam. glav. red.; DOBRYNIN, S.N., red.; NAZAROV, I.A., red.;  
 KOLESHNIKOV, S.I., red.; MEL'NIKOV, N.P., red.; SUSNIKOV, A.A., red.;  
 STAROVEROV, I.G., red.; LITKINA, L.S., red. izd-va; GORDEYEV, P.A.,  
 red. izd-va; OSENKO, L.M., tekhn. red.

[Handbook for the designer of industrial, residential, and public  
 buildings and structures; organization of construction and execu-  
 tion of building and assembly operations. Industrial construc-  
 tion] Spravochnik proektirovshchika promyshlennykh, zhilykh i  
 obshchestvennykh zdaniy i sooruzheniy; organizatsiya stroitel'-  
 stva i proizvodstva stroitel'no-montazhnykh rabot. Promyshlen-  
 noe stroitel'stvo. Pod red. P.M.Sushkova. Moskva, Gos.izd-vo  
 lit-ry po stroit., arkhitekt. i stroit. materialam, 1961. 372 p.  
 (MIRA 15:2)

(Industrial buildings)



SORKIN, Ya.G.; SOKOV, Yu.F.; SAMNIKOV, I.A.; MIKITINA, L.G.

Operation of an assembly for catalytic reforming on a  
platinum catalyst. Khim. i tekhn. topl. i masel 5 no. 11:8-  
11 N '60. (MIRA 13:11)

(Cracking process)

SOKOV, Yu.F.; NIKITINA, L.G.

Economic effectiveness of catalytic reforming units with a  
platinum catalyst. Khim. i tekhn. topl. i masel 6 no. 7:31-34  
Jl '61. (MIRA 14:6)

1. Bashkirskiy nauchno-issledovatel'skiy institut po pererabotke  
nefti.

(Petroleum--Refining)  
(Platinum)

SOKOV, Yu.F.; FUTILOVA, Z.D.; KIRILLOV, T.S.

Using rotor-disk contactors to extract the benzene by diethylene  
glycol. Trudy Bash NIINP no.5:201-205 '62. (MIRA 17:10)

SOKOV, Yu.F.; PUTILOVA, Z.D.; KASTANOS, A.Z.; VAKULENKO, A.A.

Using a rotor-disk contactor to extract aromatic hydrocarbons  
with diethylene glycol. Trudy BashNII NP no.7:108-113 '64.  
(MIRA 17:9)

S/081/63/000/004/036/051  
B194/B160

AUTHORS: Sokov, Yu. F., Putilova, Z. D., Kirillov, T. S.

TITLE: The use of rotary-disc contactors for the diethylglycol extraction of benzene

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 4, 1963, 522, abstract 4P167 (Tr. Bashkirsk. n-i. in-t po pererabotke nefi, no. 5, 1962, 201 - 205)

TEXT: Results are given of experiments, performed in the BashNII NP, on the diethylglycol extraction of benzene from a fraction of the platforming product on rotary disc extractors 50 and 80 mm diam. The vertical cylindrical shell of the extractor is divided into a number of sections formed by the series of fixed stator rings. In the centre of each section is a flat horizontal disc which is rotated by a shaft passing along the vertical axis of the shell. Height of the extractor is 2 m., the disc pitch is 10 mm., the shaft speed 400 r.p.m. for the 50 mm extractor and 150 r.p.m. for the 80 mm one. The extraction was carried out consecutively in two extractors: in the first the raw material was extracted with fresh diethylglycol and in the second the extracted phase obtained from the first extractor was con-  
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S/081/63/000/004/036/051  
B194/B180

The use of rotory disc contactors..

tacted with the recycled extract. The raffinate phase from the top of the second extractor was mixed with the raw material and passed to the bottom of the first extractor. The final raffinate phase was withdrawn from the top of the first extractor and the final extracted phase from the bottom of the second extractor. The total output of the extractor for both phases was

17-20 m<sup>3</sup>/m<sup>3</sup>. Properties of a typical raw material: boiling range 57-134°; aromatic hydrocarbons - 22.2%, including 9.5% benzene, 9.2% toluene and 3.5% xylenes. In the extraction with 800% (calculated on the crude material) diethylglycol, which contained 4-5% of water, at 85-90° and 100 vol% of the recycled extract each 100 parts of crude yielded 79 parts of the raffinate phase containing 2.5% aromatic hydrocarbons and 21 parts extract containing 97% aromatic hydrocarbons. The extract after purification with sulfuric acid was distilled in the laboratory in a column with 20 theoretical plates and benzene satisfying the ГСТ 8448-57 (GOST 8448-57) specification was obtained. [Abstracter's note: Complete translation.]

Card 2/2

SOKOV, Yu.F.; NIKITINA, L.G.

Economic efficiency of catalytic-reforming units with platinum catalysts. Trudy Bash NIINP no.5:99-104 '62. (MIRA 17:10)

Using an alumino-platinum catalyst under plant conditions. Ibid.:104-109

SOKOV, Y. I.

MIRSALAYEV, Salam Beyuk-Aga ogly; KHARIK, Veniamin Fayvushevich; SOKOV, Yu.I.,  
redaktor; AL'TMAN, T.B., redaktor izdatel'stva:

[General overhauling of oil and gas wells] Kapital'nyy remont  
neftiannykh i gazovykh skvazhin. Baku, Azerbaidzhanskoe gos.izd-vo  
neft. i nauchno-tekhn.lit-ry, 1957. 255 p. (MIRA 10:9)  
(Gas wells) (Oil wells)



10/10/1964  
10/10/1964

and using water emulsion operations with cement on water and  
petroleum bases in the Oil Well Administration of the Lenin  
Petroleum Trust. (iv. vys. ucheb. zav.; nef't' i gaz 7 no.12:  
10/10/1964 (MIRA 18:2)

1. Azimbayevskiy Institut nefli i khimii im. M. Azizbekova.

1. 1. 1.

Effect of well structure on exhalation work. Izv. vps. ucheb. zav.;  
neft' i gaz S no. 2:114-116 '65. (114A 18:3)

1. Azerbaydzhanskly institut nefti i khimii im. M. Azizbekova.

SOKOV, Yu.I.; SAPOZHNIK, V.M.

Effect of the withdrawal of liquid on the success of water exclusion operations. Izv. vys. ucheb. zav.; neft' i gaz 8 no.6:117-119 '65.

(MIRA 18:7)

1. Azerbaydzhanskiy institut nefti i khimii im. M.Azizbekova.

SOKOV, Yu.F.; PUTILOVA, Z.D.; VAKULENKO, A.A.; ZUBAREV, N.P.

Extracting aromatic hydrocarbons using a rotor-disk contractor.  
Trudy BashNII NP no.6:207-217 '63. (MIRA 17:5)

SOKOVA, A. A. ~~Doc~~ Cand Med Sci -- (diss) "Therapeutic importance of <sup>lockless</sup> ~~lock-free~~ apparatuses in the <sup>restorative</sup> ~~recovery~~ and ~~the~~ early <sup>residual</sup> ~~home~~ period after acute anterior poliomyelitis." Mos, 1957.  
13 pp 19 cm. (Second Moscow State Medical Inst im <sup>I</sup> V. Stalin),  
250 copies  
(KL, 21-57, 107)

-118-

ACCESSION NR: AT4026436

S/2589/62/000/059/0101/0108

AUTHOR: Sokova, A. A.

TITLE: Sorting of ammonia molecules by means of an electric field

SOURCE: USSR. Komitet standartov, mer i izmeritel'ny\*kh priborov. Trudy\* institutov Komiteta, no. 59 (119), 1962. Issledovaniya v oblasti izmereniya chastoty\* (Investigations in the field of frequency measurement), 101-108

TOPIC TAGS: frequency measurement, molecular generator, ammonia generator, ammonia amplifier, ammonia molecule sorting

ABSTRACT: In molecular generators and amplifiers which operate on a beam of ammonia molecules, the electric field sorts out the molecules present in the upper inversion level. The need for measurements of the natural population of the inversion sublevels derives from the fact that, at room temperature, the two energy levels determining the radio frequency are about identically inhabited. The present paper deals with the calculation of three systems for electrical sorting of ammonia molecules in a beam according to inversion levels. It is shown that, when estimating the quality of a sorting system designed for a molecular generator, the following considerations are fundamental: 1) To obtain maximum generation intensity it is essential that the number of active molecules

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ACCESSION NR: AT4026436

in the resonator be maximal; that is, that the coefficient  $\alpha$  tend toward unity. 2) To obtain maximum stability for the frequency of the molecular generator oscillations it is essential that the beam of ammonia molecules which pass through the resonator be, as far as possible, parallel; thus, the angle at which the molecules enter the resonator must be minimal. In the light of these considerations, the author has considered: 1) a  $2n$ -pole sorting system (2-pole capacitor with an axis of symmetry  $Z$  (Fig. 1 )); 2) a ring-type sorting system (a beam of  $\text{NH}_3$  molecules travels along the axis of a system of rings  $Z$ ; axis  $Z$  is the axis of symmetry of a periodic electrostatic field; the potential of the even rings is positive, that of the odd rings is negative (Fig. 2 )); a bifilar helical sorting system (Fig. 3 ). The study shows that in the case of a  $2n$ -pole capacitor the number of upper inversion level molecules entering the resonator increases as a function of decreasing system diameter and increasing pole number and diameter. However, as the number of poles and their diameter increase, the molecules of the lower inversion level are deprived of the possibility of leaving the system--a fact which disrupts the normal operation of the system. Consequently, it is advisable to select a small diameter for the poles. From these and certain other considerations, a 6- or 8-pole system, with small diameter and length greater than for quadrupoles, is recommended. The results obtained for the different sorting systems, under optimal conditions, indicate that, from the point of view of sorting, their efficiency is approximately equal. However, the calculations for the rings and particularly for the spirals are approximate and somewhat low,

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ACCESSION NR: AT4026436

and this fact must be taken into consideration when making comparisons. Orig. art. has:  
24 formulas and 5 figures.

ASSOCIATION: Komitet standartov, mer i izmeritel'nykh priborov (Committee for  
Standards, Measures and Measuring Instruments)

SUBMITTED: 00Aug60

DATE ACQ: 24Apr64

ENCL: 03

SUB CODE: PH,AS

NO REF SOV: 002

OTHER: 002

Card 3/6



SOKOVA, E. V., Candidate Med Sci (diss) -- "Therapeutic gymnastics for breaks in the bones of the wrist and fingers". Moscow, 1959. 12 pp (First Moscow Order of Lenin Med Inst in I. M. Sechenov), 200 copies (KL, № 23, 1959, 173)

SOKOVA, I. I.

Cryoscopic investigations of lime-sugar-water systems.  
I. A. Shetka, M. M. Polyachenko, and I. I. Sokova. *Trudy  
Tekhnol. Inst. Pishchecol. Prom. im. A. I. Aliskayana* 16,  
227-34 (1950).—Sols. contg. sugar (0.1, 0.2, 0.3 and 0.4  
mol./kg.) and varying amts. of CaO (from 0 to satn.) were  
investigated cryoscopically. The f.p. was initially rapidly  
reduced in 0.1M sols. of sucrose when CaO was introduced,  
but was more slowly depressed with increasing proportions  
of CaO to sucrose. The f.p. curve of sols. contg. concns.  
of 0.2, 0.3, and 0.4 mol./kg., with the addn. of increasing  
amts. of lime, was initially reduced, terminating at a min.  
and then increasing. The cryoscopic curves obtained sug-  
gested that low concns. of sugar and lime in soln. for the  
most part form  $C_{12}H_{22}O_{11}CaOH$ , and that larger concns.  
form this compd. and 2 more complicated compds., such  
as  $(C_{12}H_{22}O_{11})_2Ca$  or  $C_{12}H_{22}O_{11}Ca-O-CaC_{12}H_{22}O_{11}$ . These  
compds. in the soln. are solvated by the water.

E. A. McConih

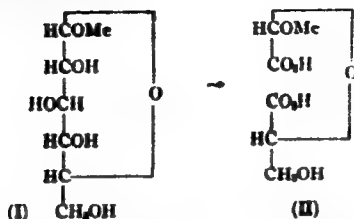
3

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Ca

10

**Cleavage of the C chain of  $\alpha$ -methyl d-glucopyranoside in ammoniacal cupric solution.** V. I. Ivanov and K. M. Shtoyko. *Doklady Akad. Nauk S. S. S. R.* 42, 179-81 (1944); *Compt. rend. acad. sci. U. R. S. S.* 42, 175-7 (1944) (in English).—Oxidation by atm. O of  $\alpha$ -Me d-glucopyranoside (I), in  $\text{NH}_3\text{-Ca(OH)}_2$  soln. proceeds according to the equation



Isolation of II is effected by means of its Sr salt which by hydrolysis and subsequent oxidation with Br is converted into oxalic and glyceric acids. Since I is an analog of the structural unit of cellulose it is conjectured that in the process involving the soln. of the latter in Schweitzer's reagent similar oxidations take place. L. Kuhn

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

SOKOVA, K. M.

USSR/Chemistry - Glycols Chemistry - Alcohols

Nov 48

"Oxidation-Reduction of Alpha-Glycols and Polyatomic Alcohols Through the Effect of an Ammonia Solution of Silver Hydroxide," V. I. Ivanov, K. M. Sokova, 1 $\frac{1}{2}$  pp

"Dok Ak Nauk SSSR" Vol LXIII, No 3

Concludes that, during action of an ammonia solution of silver hydroxide on alpha-glycols and polyatomic alcohols, oxidation occurs in carbon atoms containing hydroxyl groups up to a carboxyl group with a simultaneous rupture in the carbon-carbonic bond. Reaction is negative in beta-glycols. Submitted by Acad A. N. Nesmeyanov 2 Jul 48.

PA 55/49T18

Sokolov, L.M.

V Organic oxygen compounds from oxidizing cracking in the vapor phase. I. Aldehydes, ketones, and phenols from the gasoline fractions of primary cracking. S. F. Vasil'ev, K. M. Sokova, and R. I. Ginzburg. Trudy Inst. Nefti, Akad. Nauk S.S.R. 4, 58-65 (1954). The distillates obtained after oxidizing cracking of the kerosene fractions of Emben petroleum were studied. The gasoline fractions were treated with an aq. soln. of  $\text{NaHCO}_3$  to ext. acids, followed by treatment with a satd. aq. soln. of  $\text{NaHSO}_4$ , extd. with  $\text{Et}_2\text{O}$ , and treated again with  $\text{NaHCO}_3$  until the soln. was alk. Steam distn. and salting out the distillate with  $\text{Na}_2\text{SO}_4$  followed by fractionation gave the following aldehyde and ketone fractions: 15% b. 35-49°, 29.2% b. 54.7-77°, and 24.6% b. 73.2-83.7°. It was established that the gasoline distillates contained 0.43% carbonyl compds., mainly acetone and Et Me ketone accompanied by some propionaldehyde, butyric, valeric, and caproic aldehydes, and 0.26% phenols, mainly cresols. M. Charmandarian

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SOKOVA, K. M.

1990. ORGANIC COMPOUNDS FORMED IN THE PROCESS OF VAPOUR PHASE  
OXIDATION CRACKING. PART 2. NEUTRAL AND ACID PRODUCTS IN REACTION WATER  
FROM OXIDATION REFORMING. Vasil'ov, B.F., Sokova, K.M. and Ginzburg, R.I.  
(Trud. Inst. Nefti (Trans. Inst. Petrol., Acad. Sci. U.S.S.R.), 1955, vol. 6,  
79-84). The following were found dissolved in the reaction water after the  
refining of primary gasoline from the oxidation cracking of kerosine from  
Erba crudes. 8.4% of neutral products consisting mainly of methyl alcohol  
and acetone, also of formaldehyde, acetaldehyde, methylethylketone and ethyl  
alcohol and 1.4% of acids, mainly acetic, formic and propionic acids. (L).

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1-H/V

(2)

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AUTHOR: Bashkoriv, A.N., Kamzolkin, V.V., Sokova, K.M., and  
Andreyeva, T.P. <sup>65-4-2/12</sup>

TITLE: Method of determination of primary and secondary higher  
alcohols of the fatty series in their mixtures. (Metod opre-  
deleniya pervichnykh i vtorichnykh vyssikh spirtov zhirnogo  
ryada v ikh smesnyakh)

PERIODICAL: "Khimiya i Tekhnologiya Topliva i Masel" (Chemistry and  
Technology of Fuels and Lubricants) 1957, No. 4, pp. 7-11 (U.S.S.R.)

ABSTRACT: During studies of higher alcohols produced by a direct oxi-  
dation of paraffinic hydrocarbons it was found difficult to  
determine the content of primary and secondary alcohols, as  
methods described in the literature (2, 3, 4) were found unsat-  
isfactory when the number of carbon atoms in the molecules  
exceeds eight. The method is based on some regularities in the  
oxidation reaction of higher n-aliphatic alcohols with chromic  
acid in glacial acetic acid. The accuracy of the method on av-  
erage 5% (Table). There is one table and 6 references includ-  
ing 3 Slavic.

Card 1/1

ASSOCIATION: Petroleum Institute Ac.Sc.U.S.S.R. (Institut Nefti  
AN SSSR)

AVAILABLE:

SOU-58-6-3/13

**AUTHORS:** Bashkirov, A. N.; Karselkin, V. V.; Sokova, K. M. and Andreyeva, T. P.

**TITLE:** The Position of Hydroxyl Groups in Alcohols Prepared During the Liquid Phase Oxidation of n-Paraffin Hydrocarbons. (O. polozhenii gidroksil'noy gruppy v spirtakh, poluchayemykh pri zhidkofaznom okislenii n-parafinovykh uglevodородov).

**PERIODICAL:** Khimiya i Tekhnologiya Topliv i Masel, 1958, Nr.6. pp. 10 - 16. (USSR)

**ABSTRACT:** When investigating the position of the hydroxyl groups in the alcohol molecule, the authors used the method of oxidizing alcohols with potassium dichromate in a medium diluted with sulphuric acid (Ref.4). During the oxidation of primary alcohols, carboxylic acids, with the same number of C-atoms as contained in the initial alcohol, are obtained. During the oxidation of secondary alcohols, the C-C bonds are split at the hydroxyl groups, and carboxylic acids with a lower number of C atoms in the molecule are formed. Therefore, it is possible to determine the position of the hydroxyl groups according to the composition of the acids. Some side reactions take place when the process is carried out in sulphuric acid at increased temperatures. The authors investigated the

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SCU/65-58-6-3/13

The Position of Hydroxyl Groups in Alcohols Prepared During the Liquid Phase Oxidation of n-Paraffin Hydrocarbons.

oxidation of individual aliphatic alcohols with varying positions of the hydroxyl group (4-tetradecanol and 7-hexadecanol) with subsequent identification of the acids. The method of F. Kraft (Ref.4) was slightly modified, and distillations were carried out according to the method described by L. K. Obukhova (Ref.5). The height of the rectification column was 40 cm and the diameter 1.4 cm. A mixture of hydrocarbons, from which the olefins and aromatic hydrocarbons had been separated, was used as carrier. The content of esters in the fractions was calculated on the basis of the ester number of the fraction. On the basis of the composition of the acids it was possible to conclude that oxidation of the alcohols occurs mainly at the hydroxyl groups. Discrepancies in the rule of Papov occur at increasing distances of the hydroxyl groups from the end hydrocarbon atom. The neutral oxygen-containing compounds (ketones), obtained during the oxidation, were subjected to second oxidation reaction. The total yield of acids = 96%. The investigated fractions of alcohols were concluded to be a mixture of isomers of secondary n-hexadecanols in which the isomers are contained in equal molar

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SV/65-38-6-3/13

The Position of Hydroxyl Groups in Alcohols Prepared During the Liquid Phase Oxidation of n-Paraffin Hydrocarbons.

quantities. Experimental details on the oxidation of the individual alcohols are given. Tables 1 and 2 give the composition of oxidation products of alcohols and of their distillates; the distribution of acids is shown in Table 3. During experiments on defining the position of the hydroxyl groups in the alcohols, a fraction of alcohols boiling between 125.0 - 126.8, with an hydroxyl number of 229.5, was oxidized. The neutral oxygen-containing compounds were subjected to a second oxidation reaction. Results are given in Tables 4 and 5. These experiments showed that during the oxidation of n-paraffin hydrocarbons in the liquid phase, n-secondary alcohols are formed. The hydroxyl groups of these alcohols are situated at different C atoms of the molecule. It was also found that the reactivity of the secondary C atoms of molecules of higher n-paraffin hydrocarbons to oxygen is practically identical. There are 5 Tables and 8 References: 4 Soviet, 2 German, 1 English and 1 Dutch.

Card 3/3

ASSOCIATION: Petroleum Institute, AS USSR (Institut nefti AN SSSR)

SOKOVA, K.M.

20-1-42/58

AUTHORS:

Bashkirov, A. N., Kamzolkin, V. V.,  
Sokova, K. M., Andreyeva, T. P.,

TITLE:

On the Problem of the Oxidation Mechanism of Paraffinic Hydrocarbons in the Liquid Phase (K ~~vo~~prosu o mekhanizme zhidkofaznogo okisleniya parafinov, kh uglevodorodov)

PERIODICAL:

Doklady AN SSSR, 1958, Vol. 118, Nr 1, pp. 149-152 (USSR)

ABSTRACT:

This process is complicated and consists of a number of reactions taking place in parallel or successively. It is considered an established fact that this oxidation under mild conditions proceeds to water and carbonic acid through intermediate products of an incomplete oxidation (peroxides, alcohols, ketones, acids and others). A complicated mixture of oxygen-containing products develops. In an earlier paper (reference 1) the authors worked out the synthesis of higher alcohols of the aliphatic series by direct oxidation of paraffinic hydrocarbons in the presence of boric acid. The Shemism and the mechanism of individual stages has still to be determined. For this purpose the oxidation of a number of individual hydrocarbons was carried out and the composition of the alcohols produced was studied. A nitrogen-oxygen mixture (3,0 - 3,5% O<sub>2</sub>) with addition of 5% boric acid (calculated on the initial hydrocarbon) under atmospheric pressure was

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On the Problem of the Oxidation Mechanism of Paraffinic Hydrocarbons in the Liquid Phase.

20-1-42/58

and does not lead to positive results. The methods known in publications (references 3,4) proved to be useless. In order to solve this problem the authors worked out a special method of the quantitative determination of primary and secondary alcohols. For this purpose alcohols were by means of chromic acid oxidized in the medium of glacial acetic acid. The accuracy of this method is about 5%. From the given results of analysis follows that predominantly secondary alcohols form in the reaction studied here (87,7 - 88,7 mol.%). The interaction of oxygen with the molecules of the paraffinic hydrocarbons of normal structure mainly takes place at the secondary carbon atoms. There are 4 tables, and 5 references, 3 of which are Slavic.

ASSOCIATION:

Petroleum Institute AS USSR (Institut nefi Akademii nauk SSSR)

PRESENTED:

June 26, 1957, by A.V. Topchiyev, Academician

SUBMITTED:

June 26, 1957

AVAILABLE:  
Card 3/3

Library of Congress

AUTHORS: Bashkirov, A. N., Kamzolkin, V. V. Sokova, K.M., 20-119-4-21/60  
Andreyeva, T. P.

TITLE: The Composition of Alcohols Produced by Liquid Phase Oxidation of n-Paraffinic Hydrocarbons (O sostave spirtov, poluchayushchikhsya pri zhidkofaznom okislenii n-parafinovykh uglevodorodov)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 119, Nr 4, pp. 705-707 (USSR)

ABSTRACT: The investigation of the chemical composition and the structure of higher aliphatic alcohols is very important for the explanation of their formation mechanism as well as for the selection of the right method for their rational exploitation. In the present paper the authors occupied themselves with the hydroxyl group in the alcohol molecule. They paid special attention to the method of oxidation of alcohols with sodium bichromate and with sulfuric acid. The weight ratios between alcohol and sodium bichromate were 1:3, the quantity of the diluted sulfuric acid and of alcohol 10:1. The oxidation was carried out at different temperatures. The existence of certain methyl ethers was found in single fractions. The

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The Composition of Alcohols Produced by Liquid Phase  
Oxydation of n-Paraffinic Hydrocarbons

20-119-4-21/60

computation could be carried out also according to the  
following formula:

$$X = \frac{A(M-1) - 107.9(100-A)}{14A} \cdot 100$$

whereby X denotes the content of acid  $C_n$  (mol.%); A denotes the content of silver in the existing silver salt (percentage by weight); M denotes the molecular weight of the acid  $C_{n+1}$ . The numerical empirical data prove that this method of oxidation of alcohols can be used very well for the detection of the position of the hydroxyl group. The experimental results show furthermore that the alcohols obtained form a binary mixture of n-hexadecyl alcohols. The quantity of various alcohol molecules in this group is equal. Comprisingly was said that the alcohls produced by the oxidation of n-paraffinic hydrocarbons are mainly of secondary nature and represent a mixture of various isomeric substances. The reactivity of the atoms of the molecules of higher paraffin hydrogens of normal structure does not display any considerable differences and is equal in comparison to oxygen. This is the condition for the production of isomeric substances

Card 2/3

The Composition of Alcohols Produced by Liquid Phase  
Oxydation of n-Paraffinic Hydrocarbons

20-119-4-21/60

of secondary alcohols during the oxidation process of hydro-  
carbons in liquid state.  
There are 1 table and 5 references, 4 of which are Soviet.

ASSOCIATION: Institut nefti Akademii nauk SSSR (Petroleum **Institute** of the  
AS USSR)

PRESENTED: December 14, 1957 by A. V. Topchiyev, Member, Academy of  
Sciences, USSR

SUBMITTED: December 14, 1957

Card 3/3

1001002 R IV.

197/563

**Abstracts from USSR. Institute of Chemical Physics**

**Oxidation of Liquid-Phase Hydrocarbons by Peroxide**

197. 334 p. (Moscow: Institute of Chemical Physics, 1970) 120 copies printed.

**Author:** E. M. Ivanovskiy, V. I. P. Kuznetsov.

**Abstract:** This collection of articles is intended for chemists interested in hydrocarbon oxidation reactions, particularly for those specializing in petro-

over a period of several years on problems of hydrocarbon oxidation. The authors present their own theoretical and experimental data as well as data from the literature. No personal data are included.

**Author:** A. I. V. Kuznetsov, E. M. Ivanovskiy, and V. I. P. Kuznetsov. [Insti-

oxidation of liquid-phase hydrocarbons by peroxide. The authors present their own theoretical and experimental data as well as data from the literature. No personal data are included.

**Author:** A. I. V. Kuznetsov, E. M. Ivanovskiy, and V. I. P. Kuznetsov. [Insti-

**Author:** A. I. V. Kuznetsov, E. M. Ivanovskiy, and V. I. P. Kuznetsov. [Insti-

**Author:** A. I. V. Kuznetsov, E. M. Ivanovskiy, and V. I. P. Kuznetsov. [Insti-

**Author:** A. I. V. Kuznetsov, E. M. Ivanovskiy, and V. I. P. Kuznetsov. [Insti-



BASHKIROV, A.N.; KAMZOLKIN, V.V.; SOKOVA, K.M.; ANDREYEVA, T.P.

Determination of primary and secondary higher alcohols of  
the aliphatic series in their mixtures. Metod.anal.org.  
soed.nefti,ikh smes. i proizv. no.1:170-177 '60. (MIRA 14:8)  
(Alcohols) (Hydrocarbons)

38689

S/510/60/014/000/003/006  
D244/D307

5.3300

AUTHORS: Kamzolkin, V.V., Bashkirov, A.N., Sokova, K.M., and  
Andreyeva, T.P.

TITLE: Composition of oxygen-containing compounds forming during  
the liquid phase aerial oxidation of n-pentadecane

SOURCE: Akademiya nauk SSSR. Institut nefiti. Trudy, v. 14, 1960,  
Khimiya nefiti, 65 - 75

TEXT: Results are presented of the study of the composition of the  
products of oxidation of n-pentadecane in the presence of boric  
acid. More oxygen was used in this work than previously (Bashkirov  
A.N., Khimicheskaya nauka i promyshlennost', 1, no. 3, 272 (1956)).  
The aim of the present investigation was to obtain additional data  
on the oxidative conversions of hydrocarbons and on some intermedia-  
te oxygen-containing compounds. It was found that the increase of O  
in the oxidizing gas from 3.5 % to 21 % doubles the quantity of O -  
containing compounds. At the same time the proportion of OH - con-  
taining compounds decreases from 70 % to 50 % and COOH - containing  
compounds increase from 12 % to 31 %. The amount of carbonyl com-  
Card 1/2

BASHKIROV, A.N.; KAMZOLKIN, V.V.; SOKOVA, K.M.; ANDREYEVA, T.P.;  
KORNEVA, V.V.; ZAKHARKIN, I.I.

Synthesis of cyclododecanol by the liquid-phase oxidation  
of cyclododecane. Neftekhimiia 1 no.4:527-534 J1-Ag '61.  
(MIRA 16:11)

1. Institut neftekhimicheskogo sinteza AN SSSR i Institut  
elementoorganicheskikh soedineniy AN SSSR.

KAMZOLKIN, V.V.; BASHKIROV, A.N.; SOKOVA, K.M.; MARTYNES, M.; ANDREYEVA, T.P.

Transformations of higher aliphatic alcohols during their  
liquid phase oxidation. Neftekhimiia 1 no.5:675-682 S-O '61.  
(MIRA 15:2)

1. Institut neftekhimicheskogo sinteza AN SSSR.  
(Alcohols)(Oxidation)

5  
ZAKHARKIN, L.I., KORNEVA, V.V., KHITESTERAYA, G.M., BASHKIROVA, A.N.,  
KAPZOLKIN, V.V., SOKOVA, K.M.

New monomer for the production of the synthetic fiber dode-Kalaktan.

Report to be submitted for the 12th Conference on high molecular weight compounds  
devoted to monomers, Baku, 3-7 April 62

ZAKHARKIN, L.I.; KORNEVA, V.V.; KAMZOLKIN, V.V.; SOKOVA, K.M.;  
ANDREYEVA, T.P.; BASHKIROV, A.N.

Preparation of  $\omega$ -dodecalactam from 1,5,9-cyclododecatriene.  
Neftekhimia 2 no.1:106-109 Ja-F '62.

(MIRA 15:5)

1. Institut elementoorganicheskikh soedineniy AN SSSR.  
(Lactams) (Cyclododecatriene)

KAMZOLKIN, V.V.; BASHKIROV, A.N.; SOKOVA, K.M.; ANDREYEVA, T.P.

By-products of the liquid-phase oxidation of cyclododecane with  
molecular oxygen in the presence of boric acid. *Neftekhimicheskii  
4 no.1:96-99* Ja-F'64, (MIRA 17:6)

1. Institut neftekhimicheskogo sinteza AN SSSR imeni A.V.  
Topchiyeva.

KAMOLATA, V.V.; KAMOLATA, V.V.; KAMOLATA, V.V.; KAMOLATA, V.V.

Concerning the position of hydroxy group in the cyclohexanediols  
formed in the liquid-phase oxidation of cyclohexane in the presence  
of boric acid. Neftekhimiya 4 no.4:598-602 55-Ag '62.

(MIRA 1962)

1. Institut neftekhimicheskogo sinteza im. A.V. Topchiyeva AN SSSR.



L 36476-65 EFF(c)/EWP(j)/EWT(m) Pc-4/Pr-4 RM

ACCESSION NR: AP5010006

UR/0204/64/004/004/0599/0602

AUTHOR: Kamzolkin, V. V.; Bashkirov, A. N.; Sokova, K. M.; Andreyeva, T. P.; Zelenaya, G. A.

TITLE: Position of hydroxyl groups in cyclododecanediols, formed in the liquid phase oxidation of cyclododecane in the presence of boric acid

SOURCE: Neftekhimiya, v. 4, no. 4, 1964, 599-602

TOPIC TAGS: oxidation, decane, catalysis, boric acid, carboxylic acid, oxygen

Abstract: In the oxidation of cyclododecane with molecular oxygen in the presence of boric acid, cyclododecanone (8-10%) and high-boiling oxygen-containing compounds (12-14%), consisting chiefly of polyfunctional compounds, including a mixture of cyclododecanediols and their complex esters with hydroxy- and dicarboxylic acids, are formed in addition to cyclododecanol (approximately 80% yield). The position of the hydroxyl groups was determined in the cyclododecanediols produced in this reaction. The oxidation of the diols with nitric acid was found to proceed chiefly at the hydroxyl groups, and therefore was suitable for establishing their position in the molecule. It was found that the investigated diols represent a mixture of all possible isomers, chiefly the 1,6- and 1,7-cyclododecanediols. The 1,2-, 1,3-, and 1,4-isomers are formed in smaller amounts (approximately 1/2

L 36476-65

ACCESSION NR: AP5010006

30% of the 1,6- and 1,7-diols). Orig. art. has 1 table.

ASSOCIATION: Institut neftekhimicheskogo sinteza im. A. V. Topchiyeva AN SSSR  
(Institute of Petrochemical Synthesis, AN SSSR)

SUBMITTED: 29Nov63

ENCL: 00

SUB CODE: OC, GC

NO REF SOV: 003

OTHER: 001

JPBS

Card 2/2

S/719/62/000/081/001/001  
D204/D307

AUTHOR: Sokova, K.P.

TITLE: Methods of analysis and the chemical composition of monazite

SOURCE: Akademiya nauk SSSR. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii. Trudy. no. 81, 1962, Metody khimicheskogo analiza mineralov, no. 2, 5 - 22

TEXT: This work was carried out to (1) develop an accurate method of analysis of monazite, (2) characterize chemically a number of monazites from various deposits, and (3) determine the formula for monazite, paying particular attention to the form of Th in the mineral, since the latter problem is still unresolved. Present methods of analysis are first reviewed. Decompositions with  $H_2SO_4$ ,  $HClO_4$  and fused  $Na_2CO_3$  are described, followed by a discussion of the separation of the rare earths and Th from phosphoric acid and other elements. Oxalate,

Card 1/3

S/719/62/000/081/001/001  
D204/D307

Methods of analysis and ...

methyl oxalate and fluoride methods are given in brief. Methods of determining  $\text{SiO}_2$  and  $\text{P}_2\text{O}_5$  are described, under various conditions. Separations of Th from the rare earths and its determination are treated in some detail. Assaying monazite for U is described. The author recommends the following procedure for analysis of monazite: (a) Decomposition with conc.  $\text{H}_2\text{SO}_4$ , (b) determination of Pb as  $\text{PbCrO}_4$ , (c) separation of the rare earths and Th from the remainder by the oxalate method, (d) separation of Th from the rare earths by the tannin method, (e) separation of Ce from the other lanthanons by precipitation as  $\text{Ce}(\text{IO}_3)_4$ , (f) separation of the cerium and yttrium groups, (g) determination of Ca as oxalate, (h) determination of Fe, Al, Mg, and Mn. Detailed step-by-step instructions for stages (a) - (h) are provided. Results of 20 analyses of Russian monazites are tabulated and discussed, the author concluding that 'monazite' comprises a group of minerals of general formula  $\text{A}_2\text{B}_2\text{X}$ , with isomorphous substitutions in A, B and X.  $\text{Ce}_2\text{P}_2\text{O}_8$  and  $\text{Th}_2\text{Si}_2\text{O}_8$  are regarded as the end members of this series, (Ce denotes total rare earths), with  $\text{ThCaP}_2\text{O}_8$  and  $[\text{Ce, Th, Ca}]_2$

Card 2/3

Methods of analysis and ...

S/719/62/000/081/001/001  
D204/D307

[ P, Si, S ]<sub>2</sub> [ O, OH ]<sub>8</sub> as intermediates. There are 13 tables and 26 references.

Card 3/3

KALENOV, A.D.; ANIKEYEVA, V.I.; SOKOVA, K.P.

Case of a complicated replacement of loparite. Dokl. AN SSSR 152  
no.1:183-190 S '63. (MIRA 16:9)

1. Predstavleno akademikom D.S.Korzhinskim.  
(Soviet Far East--Loparite)

STOYANOVSKIY, A.F.; SOKOVA, M.G.

Virulence of microbial associations in polluted water and its relation to the recency of pollution; authors' abstract. Zhur. mikrobiol. epid. i immun. 28 no.9:108-109 S '57. (MIRA 10:12)

1. Iz Odesskogo meditsinskogo instituta.

(WATER SUPPLY, microbiology,

virulence of microbial assoc. in polluted water & role of time of pollution (Rus))

MINERVIN, S.M.; STOYANOVSKIY, A.F. [Stoianovs'kyi, O.F.]; SAVIN, V.R.; SOKOVA,  
M.G. [Sokova, M.H.]

Possibility of detecting the botulinus toxin in water by the method  
of determining the phagocytic index. Mikrobiol.zhur. 26 no.4:13-17  
'64. (MIRA 18:10)

1. Odesskiy gosudarstvennyy meditsinskiy institut.



LUK'YANENKO, Viktor Grigor'yevich; OSVYATINSKIY, Valentin Nikolayevich;  
SOKOVA, Mariya Ivanovna; TITOV, Vladimir Yevgen'yevich; NOVIK,  
A.M., red.; MATUSEVICH, S.M., tekhn. red.

[Comparative tables for antifriction bearings] Sravnitel'nye  
tablitsy podshipnikov kachenii. Kiev, Gostekhzdat USSR,  
1962. 146 p. (MIRA 15:7)  
(Bearings (Machinery))—Tables, calculations, etc.)

SOKOVA, N.A.; CHIZHOV, A.F.

Design of a laboratory setup for determining the atomic  
recombination coefficients. Trudy TSAO no.46:85-90 '63.  
(MIRA 17:1)

L 23505-65 EWT(1)/EWT(m)/EPF(c)/EWG(v)/FCC/EEC-4/EPR/EEC(t)/EWP(t)/  
EWP(b)/EWA(h) Po-4/Pe-5/Pq-4/Pr-4/Pe-4/Pl-4/Pae-2/Peb IJF(c) JD/WS/  
GW-2  
ACCESSION NR: AT5001568 S/2789/64/000/056/0009/0017

AUTHOR: Sokova, N.A., Fedynskiy, A.V., Chizhov, A.F.

TITLE: An investigation of the properties of the "omegatron" in measuring  
the partial pressure of molecular nitrogen B+1

SOURCE Tsentral'naya aerologicheskaya observatoriya. Trudy, no. 56, 1964. Fizika  
vysokikh sloyev atmosfery. Teoriya i metody issledovaniya (Physics of high atmospheric  
layers. Theory and methods of investigation), 9-17

TOPIC TAGS: omegatron, mass spectroscopy, high altitude mass spectroscopy,  
ionosphere, ion pump, molecular nitrogen, nitrogen partial pressure

ABSTRACT: The characteristics of the omegatron mass spectrometer are examined  
experimentally with a specific view to its application as a portable device for measuring  
the partial pressure of molecular nitrogen in rarefied mixtures of atmospheric gases.  
Some aspects of omegatron compatibility with certain measuring and evacuating systems  
are discussed. The weight and dimensions of the omegatron have been reduced to make  
its use in high altitude research feasible. The dimensions of the described omegatron  
and its associated magnetic system are 220 x 115 x 80 mm.; the total weight is 3500

Card 1/3

L 23505-65

ACCESSION NR: AT5001568

grams. This omegatron differs additionally from that described by Chizhov (Trudy TSAO, No. 42, page 39, 1962) in the use of non-magnetic nichrome for the electrodes and the use of an additional diaphragm for adjustment of the electron beam. Optimum values of the working parameters are:  $H = 2 \cdot 10^3$  gauss, accelerating voltage of the ionizing electrons 140 volts, collector voltage 0.4 volts, amplitude of the high frequency field 0.3 volts, emission current 5 ma. Resolution for masses of the order of molecular nitrogen is 7.5. Determination of the relative proportions of neon 20 and neon 22 in a gaseous mixture by measuring the ion current of the device is accurate to  $\pm 10\%$  to a partial neon pressure of  $5 \cdot 10^{-5}$  mm. Hg, which is no worse than measurements made using a model EMU-3 amplifying electrometer. In order to make absolute measurements, the device is calibrated by measuring the ion current as a function of introduced molecular nitrogen. In order to attain the desired stability of the current as a function of pressure, particular attention has to be paid to increasing electrical insulation (to prevent leakage losses), to improving the cleanliness of the electrode surfaces (to retard gaseous sorption effects) and to using a longer warm-up period before calibration. An evaluation of the distortion introduced by using the ion pump described by Kostko and Fedynsky (Trudy TSAO, No. 46, 1963) is made.

Card 2/3

23505-65

ACCESSION NR: AT5001568

Comparative tables for the ion pump and oil and mercury diffusion pumps are given. It is concluded that sufficient accuracy is achieved with the ion pump for work with mass numbers of the order of molecular nitrogen. Orig. art. has: 8 figures and 2 tables.

ASSOCIATION: Tsentral'naya aerologicheskaya observatoriya (Central aerologic  
observatory)

SUBMITTED: 00

ENCL: 00

SUB CODE: ES, GP

NO REF SOV: 005

OTHER: 001

Card 3/3

L 00464-66 EWT(1)/FCC/EMA(h) GW

ACCESSION NR: AT5013406

UR/2789/65/000/061/0028/0043

AUTHOR: Sokova, N. A.; Chizhov, A. F.

TITLE: Use of the mass spectrometric technique for determining partial densities and temperatures of the components of the upper atmosphere

SOURCE: Tsentral'naya aerologicheskaya observatoriya. Trudy, no. 61, 1965. Fizika vysokikh sloyev atmosfery, teoriya i metody issledovaniya (Physics of high atmospheric layers, theory and methods of investigation), 28-43

TOPIC TAGS: mass spectrometer, upper atmosphere, upper atmosphere density, upper atmosphere temperature

ABSTRACT: Analytical expressions were obtained which make it possible to calculate the absolute and relative partial densities of the components of atmospheric air both in the laboratory and in the free atmosphere from primary mass spectra. The expressions obtained can be used for processing mass spectra of atmospheric air. It is shown that many expressions are considerably simplified in various high-altitude intervals. A method of calculating the temperature of the free atmosphere for the case of multiple lines of the mass spectrum is proposed. It is shown that the omegatron is the most sensitive mass spectro-

Card 1/2

L 00464-66

ACCESSION NR: AT5013406

meter for measuring the temperature of the free atmosphere. The need for a more accurate experimental determination of the sensitivity coefficients  $S_{ij}$  and  $S'_{ij}$  is emphasized. Orig. art. has: 2 figures, 2 tables, and 51 formulas.

ASSOCIATION: Tsentral'naya aerologicheskaya observatoriya (Central Aerological Observatory) 44,55

SUBMITTED: 00

ENCL: 00

SUB CODE: ES,GP

NO REF SOV: 032

OTHER: 009

Card

KC  
2/2

SMELYANSKAYA, G.A.; KOYFMAN, B.Ye.; SOKOVA, O.A.; GORONOVICH, D.I.

Field method for testing corundum ores of the Semiz-Bugu deposit.

Sov.geol. no.21:102-107 '47.

(MIRA 8:8)

(Semiz-Bugu region--Corundum)



SOKOVA, O.A.; GORONOVICH, D.I.

Testing the hardness of coal by the damping oscillation  
method. Sov.geol. no.21:108-114 '47. (MLRA 8:8)  
(Mica)

SOKOVA, O.A., studentka.

Clinical manifestation of acute serous toxic myocarditis. Vrach.  
delo no.3:307 Mr '57 (MLRA 10:5)

1. Kafedra propedevticheskoy terapii (zav.-prof. F.Ya. Primak)  
Kiyevskogo meditsinskogo instituta.  
(HEART --DISEASES)

KULIK, A. A., SOKOVA, O. I.

Hybridization, Vegetable

Changes in the biochemical characteristics of "Bizon" tomato effected by vegetative hybridization. Biokhimiia, 17, No. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, June, 1952 ~~1953~~. Unclassified.

KISELEVA, N.S.; SOKOVA, O.I.

Viability of tumor tissue following a three-year storage under freezing conditions. Vop. onk. 10 no.2:108-110 '64.  
(MIRA 17:7)

1. Iz laboratorii tsitogenetiki (zav. - doktor biologicheskikh nauk Ye.Ye. Pogonyants) Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. N. N. Blokhin). Adres avtora: Moskva, I-11C, ulitsa Shchepkina, 61/2, korpus 9, Institut eksperimental'noy i klinicheskoy onkologii AMN SSSR.

KISELEVA, N.S.; SOKOVA, O.I.; KONSTANTINOVA, L.N.; POGOSYANTS, Ye.Ye.

Chromosome sets and the rate of tumor growth of two substrains  
of the ascitic hepatoma of rats. Vop. onk. 11 no.4:61-65 '65.  
(MIRA 18:8)

1. Iz laboratorii tsitogenetiki (zav. - doktor biol. nauk Ye.Ye.  
Pogosyants) Instituta eksperimental'noy i klinicheskoy onkologii  
AMN SSSR (direktor - deystvitel'nyy chlen AMN SSSR prof. N.N.  
Blokhin).

SOKOVA, R.M.

Dehydration of petroleum by high-frequency currents. Neftianik  
2 no.8:22-23 Ag '57. (MIRA 10:10)

1. Master vysokochastotnoy ustanovki obezvozhivaniya nefti promysla  
No. 2 neftepromyslovogo upravleniya Tuymazaneft'.  
(Petroleum--Refining)

SONOWIC, F.

Storage and care of military uniforms. p. 786.

VOJNO-TEHNIKI GLASNIK. Beograd, Yugoslavia. Vol. 3, no. 10, Oct. 1955.

Monthly List of East European Accessions (EEAI) 10, Vol. 3, no. 9, Sept. 1959.

Uncl.

BOACHENKO, V. A.; KROVICH, L. I.

"Passive hemagglutination in influenza."

report presented at 4th Intl Cong, Hungarian Soc of Microbiologists, Budapest,  
30 Sep-3 Oct 64.

Inst of Virology im D. I. Ivanovskiy, AMS USSR, Moscow.



KISSIN, I.G.; KULIBABA, F.V.; PAPPENGOL'TS, N.K.; POPOV, I.V., doktor geol.-  
mineral.nauk; SLAVYANOV, V.N.; SOKOVICH, L.M.; FANDEYEVA, V.I.;  
BOGOMOLOV, G.V., retsenzent; KOTLOV, F.V., retsenzent; PANYUKOV,  
P.N., retsenzent; PRIKLONSKIY, V.A., retsenzent; SOKOLOV, N.I.,  
retsenzent

[Conditions in the area of the Kursk Magnetic Anomaly from the  
point of view of engineering geology and hydrogeology; data  
on the development of deposits using the open-pit mining method]  
Inzhenerno-geologicheskoye i gidrogeologicheskoye usloviya raiona  
kurskoy magnitnoy anomalii. Moskva, Izd-vo akad. nauk SSSR,  
1960, 165 p. (Akademiya nauk SSSR. Laboratoriya gidrogeologicheskikh  
problem. Trudy, no.28)

(Kursk Magnetic Anomaly--Mining geology)

SOLOVICH, V. A.

(The commercial operation of railroads; questions and answers) Moskva,  
'Transpechat' (1924) 161p.

Yudin HE1896.S68

SOKOVICH, V. A.

Obraztsov, V. I., Marek, D.P., Nadezhin, S. P., Sokovich, V. A. and Shaul'skiy, F. I., "Importance of a Unified Technological Process in Railroad Transportation and Method of Procedure." Edited by Academician V. N. Obraztsov, Academy of Sciences USSR. (Section on Scientific Solution of Transportation Problems, Academy of Sciences USSR, 1949, 160 pp, 1,500 copies.

SOKOVICH, V. A.

USSR/Academy of Sciences - Book, Mining

Jul 50

"Review of Book, 'Essence of the Unit Technological Process in Railroad Transportation and Its Procedure and Execution,'" P. O. Sadikov

"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 7, pp 1099-1101

Reviews subject book by Acad V. N. Obratsov, D. P. Marek, S. P. Nadezhin, V. A. Sokovich, and P. I. Shaul'skiy. States more than 80% of all freight is carried by trains.

162T2

ACC NR: AR7002215 (A,N) SOURCE CODE: UR/0271/66/000/010/A068/A068

AUTHOR: Sokovich, V. Yu.

TITLE: Universal automatic device for protecting metal equipment from corrosion by stray currents

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika, Abs. 10A457

REF SOURCE: Pribory i ustroystva s dstv avtomatiki i telemekhan. Resp. mezhved. nauchno-tekhn.sb., vyp. 1, 1965, 30-37

TOPIC TAGS: corrosion protection, potentiometer, oscillograph, stray current, *ELECTRIC CURRENT, ELECTRIC POTENTIAL, ELECTRIC EQUIPMENT, METAL PHYSICAL PROPERTY*

ABSTRACT: All USSR anticorrosion devices for metal structures have operational characteristics which remain unchanged during the time between adjustments. This leads to systematic deviations in their optimum performance efficiency, since the instability of external conditions, especially in the field of stray currents is the specific feature of the work of the protection device. Oscillograms of metal-ground potential and drainage current for a fixed short period of time are present-

Card 1/2

UDC: 62-55:620.197

ACC NR: AR7002215

ed with diagrams of changes of the mean values of these potentials for periods of 24 hr and a year. From this material it is apparent that the potentials fluctuate considerably around the daily means. A device capable of maintaining the equipment-ground potential constant by adjustment of its operational parameters to the changes in external conditions was built at the Khar'kov Institute for Mining Engineering, Automation, and Computer Technology, and it is described. The adjustment is achieved by connecting into the protection circuit a controlled voltage source. The value of the potential required is set on a dial linked to the arm of a potentiometer. The operation of the unit under various conditions is described and pertinent oscillograms illustrating the test data are presented. The latters show that an acceptable accuracy is controlling the potential has been achieved. Orig. art. has: 3 titles, and 12 illustrations. [Translation of abstract]  
[KP]

SUB CODE: 14, 09/

Card 2/2

L 55242-65 EWT(d)/EWT(m)/EWP(w)/EWP(v)/T-2/EWP(k)/EWA(h) Pf-4/Peb WW/EM

ACCESSION NR: AP5015553

UR/0286/65/000/008/0097/0098  
629.135/138

AUTHOR: Grigor'yev, I. I.; Sokovikov, Yu. G.

TITLE: Device for altering the flapping controller angle. Class 62, No 170304

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 8, 1965, 97-98

TOPIC TAGS: flapping angle controller, swash plate

ABSTRACT: An Author Certificate has been issued for a device for altering the flapping angle of the controller, which consists of a blade guide, connecting rod, and rotating swash plate. To decrease the clearance in flight between the main rotor blades in coaxial helicopters, the blade guide has a slot in which a thrust bearing and one end of the connecting rod are displaced by a drive mechanism. This connecting-rod end changes the flapping-controller angle; its other end is also displaced by a drive mechanism along a slot in a bracket on the rotating swash plate. (See Fig.1 of Enclosure.)  
Orig. art. has: 1 figure.

[WH]

ASSOCIATION: none

Card 1/3

L 55242-65

ACCESSION NR: AP5015553

SUBMITTED: 24Oct64

ENCL: 01

SUB CODE: AC

NO REF SOV: 000

OTHER: 000

ATD PRESS: 4022

Card 2/3



L. 55242-55

ACCESSION NR: AP5015553

ENCLOSURE: 01

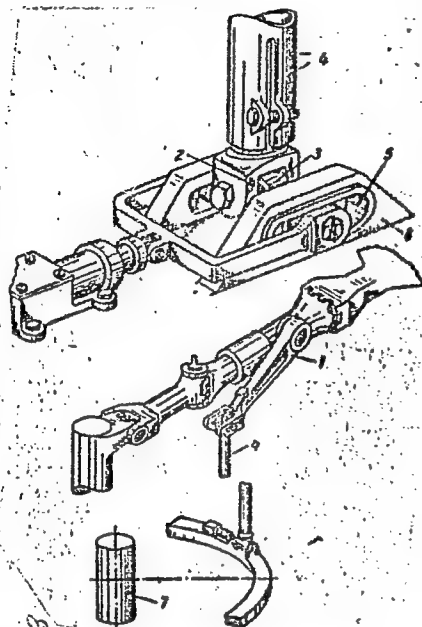


Fig. 1. Device for altering the flapping-controller angle

1 - Blade guide; 2 - slot;  
3 - thrust bearing; 4 - connecting rod; 5 - slot; 6 - bracket; 7 - rotation of swash plate.

Card 3 / 3 MB

L 04620-67 EWT(1)/EEC(k)-2/T/EWP(k) IJP(c) #3  
ACC NR: AP6034423

SOURCE CODE: UR/0386/66/004/008/0303/0307

AUTHOR: Sobolev, N. N.; Sokovikov, V. V.

ORG: Physics Institute im. P. N. Lebedev, Academy of Sciences SSSR (Fizicheskiy institut Akademii nauk SSSR)

TITLE: A mechanism ensuring level population inversion in CO<sub>2</sub> lasers

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 4, no. 8, 1966, 303-307

TOPIC TAGS: gas laser, laser theory, neon, carbon dioxide, electron interaction

ABSTRACT: Population inversion of the CO<sub>2</sub> molecules in a CO<sub>2</sub>-N<sub>2</sub> laser by resonant energy transfer from the N<sub>2</sub> molecules in the first vibrational level, and the cause of the large population of the first vibrational level of N<sub>2</sub>, are explained by the authors in a natural fashion by using the results of G. J. Schulz (Phys. Rev. v. 135, A988, 1964 and earlier) and I. D. Swift (Brit. J. Appl. Phys. v. 16, 837, 1965). The explanation is based on the hypothesis that the vibrational levels are excited by electron interaction, since their results demonstrate that the average electron energy in the discharge, under conditions close to those prevailing in a CO<sub>2</sub>-N<sub>2</sub> laser, will not exceed 1.5 - 2 ev. This denotes, when account is taken of the large (e, N<sub>2</sub>) collision cross section, that the main cause of the appreciable concentrations of N<sub>2</sub> in the excited vibrational states is direct electron excitation. Furthermore, any vibrational quantum of N<sub>2</sub>, not only the first, can go over to the CO<sub>2</sub> molecule, leading in

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L 04620-67

ACC NR: AP6034423

final analysis, to predominant population of the first vibrational level. The possibility that even the high vibrational levels of  $N_2$  can effectively excite the upper laser level of  $CO_2$  explains the large efficiencies and powers of the laser with the  $CO_2 + N_2$  mixture. The lasing mechanism of a pure- $CO_2$  laser is assumed to be due to the large number of CO molecules produced by the electric discharge. It is proposed that the role played by  $N_2$  in the  $CO_2-N_2$  mixture is played by CO in the  $CO_2-CO$  mixture. The increase in lasing power following addition of He to the  $CO_2-N_2$  mixture or to  $CO_2$  also finds a natural explanation, since helium has the highest ionization potential and the highest gas-discharge electron temperature of all the gases involved. Addition of He to  $CO_2$  or to a  $CO_2-N_2$  mixture leads to an increase in the average electron energy, up to values close to the energies corresponding to the maximum cross sections of the  $(e, CO)$  or  $(e, N_2)$  interaction. An "equalization" of the distribution function, i.e., compensation of the electrons knocked out of the discharge by resonant interaction with the  $N_2$  and CO, is also possible. It is noted in conclusion that addition of He to  $CO_2$  or to a  $CO_2-N_2$  mixture not only leads to an increase in the population of the upper laser level, but also to a decrease in the population of the lower laser level, as confirmed by the experimentally observed decrease in the intensity of spontaneous emission from the lower laser level of  $CO_2$  upon addition of He to a  $CO_2-N_2$  mixture. Orig. art. has: 3 figures.

SUB CODE: 20/ SUBM DATE: 16Jul66/ ORIG REF: 001/ OTH REF: 011/ ATD PRESS: 5100

Card 2/2 LC

ALEKSANDROVICH, E.-G.V.; SOKOVISHIN, V.A.; SAZANOV, A.I.

Hand-operated universal catharometric leak detector. Prib. i  
tekh. eksp. 8 no.5:162-164 S-0 '63. (MIRA 16:12)

ACCESSION NR: AP4018370

S/0120/64/000/001/0085/0087

AUTHOR: Nasy\*rov, F.; Sokovishin, V. A.

TITLE: Resolution of an argon ionization chamber with an admixture of water vapor

SOURCE: Pribery\* i tekhnika eksperimenta, no. 1, 1964, 85-87

TOPIC TAGS: ionization chamber, argon ionization chamber, argon ionization chamber resolution, argon water vapor chamber resolution, argon water vapor ionization chamber

ABSTRACT: A grid-type pulse ionization chamber was filled with argon at 2 atm with a water-vapor admixture at a partial pressure of 2.3 to 0.5 torr (temperatures -8 to -24C). This combination yielded the highest resolution for a chamber having no collimating or focusing devices. The chamber voltage was 1 kv, with 25% of it on the grid. Variations within 0.8 - 1.2 kv, as well as

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ACCESSION NR: AP4018370

increasing the pressure to 3 atm, had little effect. Decreasing the pressure to 1 atm with a corresponding increase in the interelectrode separations resulted in some impairment to the resolving power. The pulse-height distribution of alpha-particles  $\text{Pu}^{233}$  and  $\text{Pu}^{239}$  with half-widths of the principal maxima of 42 and 50 kev, respectively, is reported. The conclusion is drawn that "the presence in argon of a considerable admixture of  $\text{H}_2\text{O}$  (up to 0.15%) does not impair, but rather improves the chamber characteristics." Orig. art. has: 3 figures.

ASSOCIATION: none

SUBMITTED: 07Mar63

DATE ACQ: 18Mar64

ENCL: 00

SUB CODE: NS

NO REF SOV: 001

OTHER: 003

Card 2/2

POMERANTSEV, V.V.; RUNDYGIN, Yu.A.; SOKOVISHIN, Yu.A.

Approximate theory of the combustion and gasification of a  
fuel layer. Inzh.-fiz.zhur. 4 no.8:11-19 Ag '61. (MIRA 14:8)

1. Politekhnikheskiy institut imeni M.I.Kalinina, Leningrad.  
(Combustion, Theory of)

27556  
S/170/61/004/010/011/019  
B108/B102

26.2532

AUTHORS: Ozhigov, G. Ye., Smirnov, V. G., Sokovishin, Yu. A.

TITLE: Production of a thermopile and a method to determine its time constant experimentally

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 4, no. 10, 1961, 90-96

TEXT: Following a suggestion by B. G. Smirnov, the authors prepared 2 - 4 $\mu$  thick and some 0.3 mm wide thermocouples by electroplating. A stainless steel cylinder with a spiral engraved at a pitch of 0.3 mm was plated with copper on one and with nickel on the other half. The spiral groove was previously filled with shellac so that the plating would come off readily in the form of a wire, half copper and half nickel. The resistance of each of these thermocouples (16 mm long) was 0.6 ohm. Thermopiles consisting of 5 to 25 junctions were assembled. The hot junctions were blackened with antimony or bismuth. The sensitivity of one junction to steady radiation is between 0.23 and 0.31 mv.cm<sup>2</sup>/watt, the relaxation time  $\tau_{0.63}$  = 0.02 sec. R. R. Kharchenko ("Elektrichestvo", 11,

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27556  
S/170/61/004/010/011/019  
B108/B102

Production of a thermopile and a method ...

47, 1955) had already given an exact equation for a highly damped galvanometer or an oscillator ( $\beta \gg 2$ ). From this equation, the authors derive a formula for determining the relaxation time  $\theta$  of a thermopile

from oscillograms of an oscillator with a natural frequency  $\omega_0 \approx \frac{2\pi}{\theta}$ .

This formula reads as follows:

$$\frac{y}{y_{\max}} = 1 - \exp(-t/m) \left\{ 1 + \frac{t}{m} \left[ 1 + \frac{t}{2m} + \frac{t^2}{6\theta^2} + \frac{t^2}{6m^2} - \frac{t}{2\theta} \left( 1 + \frac{2t}{3m} \right) \right] \right\}.$$

$y$  denotes the deflection of the oscillator,  $m = 2\beta/\omega_0$ . The error is the least when time  $t$  is measured in the oscillogram of transients at a relative coordinate  $y/y_{\max}$  of between 0.63 and 0.80. In this case, the error amounts to  $\pm 5\%$ . The authors checked their method experimentally and found good agreement between theory and experiment. Professor K. I. Strakhovich is thanked for valuable advice, Engineer L. P. Osipova for having determined the amplitude-frequency characteristics of the K-12-21 (K-12-21) oscilloscopes. There are 2 figures, 1 table, and 5 Soviet references.

Card 2/3

h1312

S/170/62/005/010/005/009  
B104/B186

AUTHORS: Strakhovich, K. I., Sokovishin, Yu. A.

TITLE: Discharge of a laminar jet of conductive gas into a magnetic field

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 5, no. 10, 1962, 65 - 69

TEXT: This is studied by the methods of laminar boundary layers and jet streams. The gas jet is assumed to be discharged from a narrow slit of infinite length and to flow into the same gas kept at a constant pressure.  $\gamma$ ,  $\sigma$  and  $\mu$  are constant. Thermal effects and gas ionization are neglected. The equation of motion

$$\left. \begin{aligned} \bar{u} \frac{\partial \bar{u}}{\partial x} + \bar{v} \frac{\partial \bar{u}}{\partial y} &= \frac{\nu}{u_0 l} \frac{\partial^2 \bar{u}}{\partial y^2} - \frac{\sigma \mu^2}{\rho u_0} (H_0^2 \bar{u} \bar{H}^2) \\ \frac{\partial \bar{u}}{\partial x} + \frac{\partial \bar{v}}{\partial y} &= 0, \quad \frac{\partial \bar{H}_x}{\partial x} + \frac{\partial \bar{H}_y}{\partial y} = 0 \\ \frac{\partial \bar{H}_x}{\partial y} &= \frac{d\bar{H}}{dx} - \sigma \mu u_0 l \bar{u} \bar{H} \end{aligned} \right\} \quad (3)$$

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Discharge of a laminar jet...

S/170/62/005/010/005/009  
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of the gas in the reduced variables

$$\bar{x} = \frac{x}{l}, \quad \bar{u} = \frac{u}{u_0}, \quad \bar{y} = \frac{y}{l}, \quad \bar{v} = \frac{v}{u_0},$$

$$\bar{H} = \frac{H}{H_0}, \quad \bar{H}_y = \frac{H_y}{H_0}, \quad \bar{H}_x = \frac{H_x}{H_0}.$$

is transformed to the system

$$\frac{\partial \bar{\psi}}{\partial \bar{y}} \frac{\partial^2 \bar{\psi}}{\partial \bar{x} \partial \bar{y}} - \frac{\partial \bar{\psi}}{\partial \bar{x}} \frac{\partial^2 \bar{\psi}}{\partial \bar{y}^2} = \frac{1}{\text{Re}} \frac{\partial^3 \bar{\psi}}{\partial \bar{y}^3} - N_0 \bar{H}^2 \frac{\partial \bar{\psi}}{\partial \bar{y}} \quad (6),$$

$$\frac{\partial \bar{H}_x}{\partial \bar{y}} = \frac{d\bar{H}}{d\bar{x}} - \text{Re}_w \bar{H} \frac{\partial \bar{\psi}}{\partial \bar{y}}, \quad (7)$$

by introducing the dimensionless parameters

$$\text{Re} = \frac{u_0 l}{\nu}, \quad \text{Re}_w = \sigma \mu u_0 l, \quad N_0 = \frac{\sigma \mu^2}{\rho u_0} l H_0^2 \quad (4)$$

and the dimensionless stream function  $\bar{\psi}$ . This system is solved with the following boundary conditions: (a) on the jet axis ( $\bar{y} = 0$ ),  $\bar{v} = 0$ ,  
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Discharge of a laminar jet...

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$\partial \bar{u} / \partial \bar{y} = 0$ ,  $\bar{H}_x = 0$ ; (b) if  $\bar{y} \rightarrow \infty$ ,  $\bar{u} = 0$ ; (c) at a great distance from the slit  $\bar{H}_y = \bar{H} = 0$ . From this system the principle of linear momentum  $\bar{H}^2 \bar{x}^{-1+q} \bar{y}^p = \frac{ab}{N_0 f(\infty)} \int_0^\infty \{f'(\eta)\}^2 d\eta = \text{const}$  is derived. This equation is possible only if  $\bar{H} = \bar{x}^n$ , where  $n = (p-q-1)/2$ .  $a$ ,  $b$ ,  $p$  and  $q$  are constants. On the condition that  $p = 0$ ,  $q = 1$ , and  $n = -1$  the solutions

$$\bar{u} = \frac{3}{2} \frac{N_0}{x} \left( 1 - \text{th}^2 \frac{\eta}{2} \right) \quad (17),$$

$$\bar{v} = \frac{3}{2} \sqrt{\frac{N_0}{\text{Re}}} \frac{\eta}{x} \left( 1 - \text{th}^2 \frac{\eta}{2} \right) \quad (18)$$

are obtained for the velocity components,

$$\bar{H}_y = \frac{1}{x} - \frac{\eta}{x} \frac{1}{N_0 \text{Re}} \left( \eta + 3 \text{Re}_* N_0 \text{th} \frac{\eta}{2} \right), \quad (22) \text{ and}$$

$$\bar{H}_x = -\frac{1}{x} \frac{1}{\sqrt{N_0 \text{Re}}} \left( \eta + 3 \text{Re}_* N_0 \text{th} \frac{\eta}{2} \right) \quad (23)$$

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Discharge of a laminar jet...

S/170/62/005/010/005/009  
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for the components of the magnetic field and

$$Q = 2\rho \int_0^{\infty} u dy = 6\mu H_0 \sqrt{\rho\nu\sigma}$$

(19)

for the amount of fluid discharged per unit of time. At other values of  $n$  the equations of magnetohydrodynamics are not fulfilled.

ASSOCIATION: Politekhnikheskiy institut imeni M. I. Kalinina, g. Leningrad  
(Polytechnic Institute imeni M. I. Kalinin, Leningrad)

SUBMITTED: February 26, 1962

Card 4/4

STRAKHOVICH, K.I., prof. (Leningrad); SOKOVISHIN, Yu.A., inzh. (Leningrad)

Magnetogasdynamic generators of power systems. Elektrichestvo no.9:  
15-22 S '63. (MIRA 16:10)

STRAKHOVICH, K.I.; SOKOVISHIN, Yu.A.

Principal equations of electromagnetic thermal gas dynamics.  
Trudy LPI no.228:7-19 '63. (MIRA 17:1)

L 17169-63 EWT(1)/EWG(k)/BDS/EEC(b)-2/ES(w)-2 AFFTC/ASD/ESD-3/  
AFWL/IJP(C)/SSD Pz-4/Pab-4/Pi-4/Po-4 AT  
ACCESSION NR: AP3004296 S/0170/63/006/007/0088/0093 82  
81

AUTHOR: Strakhovich, K. I., Sokovishin, Yu. A.

TITLE: Investigation of the distribution of temperature in a laminary jet of  
a conducting gas escaping into space with a magnetic field

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 6, no. 7, 1963, 88-93

TOPIC TAGS: laminary jet, conducting gas, energy equation, heat exchange,  
kinematic viscosity, conductivity, magnetic permeability, Legendre equation

ABSTRACT: On the basis of an earlier solution for the escape of a laminary  
flat heated jet of conducting gas into space with a magnetic field, the paper  
studies "auto-model" solutions of the energy equation and proposes formulas  
for temperature distribution. A paper by the authors in IFZh, No. 10, 1962,  
discussed the problem of the escape of a laminary non-compressible isothermic  
jet of conducting gas from a narrow fissure of infinite width into a quiescent  
medium of the same gas in the presence of a magnetic field. The present

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ACCESSION NR: AP3004296

article studies the distribution of temperature in the jet with heat exchange, retaining the conditions of constancy of the coefficients of kinematic viscosity, conductivity, magnetic permeability and also heat capacity. The problem reduces to a solution of the Legendre equation with a free term and is analyzed for some particular values of  $Pr$  (= dimensionless criterion of similarity). The relation  $\phi_1(\eta_1)$  is plotted and the equation of temperature distribution along the jet axis is given. The temperature distribution will differ from the constant external temperature  $T_{inf}$  only when there is a magnetic field.

In its absence, the solution obtained is unreal, since the initial equations cannot be solved under the limit conditions fixed. The solution offered is restricted only by the limits of reality of the approximations of the boundary layer. Orig. has 19 numbered equations and one graph (change of the temperature function  $\phi_1(\eta)$  at different  $Pr$  and  $n$ ).

ASSOCIATION: Politekhniicheskiy institut imeni M. I. Kalinina, Leningrad (Polytechnical Institute)

SUBMITTED: 11Dec62

DATE ACQ: 08Aug63

ENCL: 00

SUB CODE: PH

NO REF SOV: 005

OTHER: 000

Card 2/2

L 65056-65 EWT(1)/EWP(m)/EPA(s)-2/EPA(sp)-2/EWG(v)/EWA(d)/EPA(w)-2/T-2/EWA(m)-2  
ACCESSION NR: AR5006804 IJP(c) AT S/0196/65/000/001/A013/A013  
621.311.25

SOURCE: Ref. zh. Elektrotehnika i energetika, Abs. 1A86

AUTHOR: Sokovishin, Yu. A.

TITLE: Steady-state isothermic flow of the electroconducting gas in a MHD generator

CITED SOURCE: Uch. zap. aspirantov i soiskateley. Leningr. politekhn. in-t.  
Energomashinostroyeniye. L., 1964, 3-8

TOPIC TAGS: MHD generator

TRANSLATION: A single-variable isothermic flow in the channel of a MHD generator is considered. Fringe effects are neglected as the channel electrodes are assumed to be solid and the channel infinitely long. Other assumptions: the induction is constant along the channel, no Hall effect is involved, plasma is not viscous, and boundary-layer effects are neglected. With the above assumptions, a set of equations of a stationary flow in relative units is developed. The system is quadrature-solved for two particular cases: (a) the channel cross-section and the electric conductance are constant; (b) the channel cross-section is constant, but the electric conductance is density-dependent. Bibliography: 5 titles.

Card 1/1722 SUB CODE: EE, PR

ENCL: 00

L 27772-65 EWP(m)/EPR/EWG(v)/EPA(w)-2/EWT(1)/T-2/EPA(sp)-2/EWA(m)-2/EWA(d)/ Pd-1

ACCESSION NR: AT5003381 Pe-5/Pi-4/Pe-4/ S/2563/64/000/232/0005/0008  
Pe-4/Pab-10 IJP(c)

AUTHOR: Strakhovich, K. I.; Sokovishin, Yu. A.

TITLE: Uniform current of conducting gas in a magnetic and electric field

SOURCE: Leningrad. Politekhnikheskiy institut. Trudy, no. 232, 1964. Turbomashiny (Turbomachines), 5-8

TOPIC TAGS: laminar flow, conducting gas, gas flow, electromagnetic field

ABSTRACT: The case of a laminar flow of conducting gas emerging from a narrow slit and mixing with a medium made of the same gas has been solved. The medium is with- in a transverse magnetic field, and the coefficient of kinematic viscosity  $\nu$ , conductivity  $\sigma$ , and magnetic permeability  $\mu$  ( $\neq 1$ ) are assumed constant. The gas is assumed neutral in so far as there is no electric field due to the gas it- self, while the applied electric field is also transverse. This brings the differ- ential of laminar flow into the form

$$a) p = \text{const}; \rho = \text{const}; T = \text{const};$$

$$b) u \frac{\partial a}{\partial x} + v \frac{\partial a}{\partial y} = \nu \frac{\partial^2 a}{\partial y^2} - \frac{\sigma \mu^2}{\rho} u f f^2;$$

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ACCESSION NR: AT5003381

$$\begin{aligned} a) \frac{\partial u}{\partial x} + \frac{\partial v}{\partial y} &= 0; \vec{H} = H\vec{j}; \frac{\partial \vec{H}}{\partial x} = 0; \frac{\partial \vec{H}}{\partial t} = 0; \\ z) \operatorname{div} \vec{H} &= \frac{\partial H}{\partial y} = 0; \vec{J} = \sigma_1 [\vec{u} \vec{H}] = \operatorname{rot} \vec{H}; \sigma_1 u H \vec{k} = \frac{\partial H}{\partial x} \vec{k}. \end{aligned} \quad (1)$$

It follows that  $u$  is  $u(x)$  only and  $\partial u / \partial y = 0$ , i.e., the motion under study is not dependent on viscosity. A full analysis of the solutions of system (1) is tedious and complicated, and the authors suggest that the most rational approach would probably be to study the solutions presented in the paper for definite values of this similarity criterion. Orig. art. has: 19 formulas.

ASSOCIATION: Leningradskiy politekhnicheskiy institut imeni M. I. Kalinina (Leningrad polytechnic institute)

SUBMITTED: 00

ENCL: 00

SUB CODE: ME, EM

NO REF SOV: 001

OTHER: 003

Card 2/2